BASIS OF ASSESSMENT FOR IMPACT FEES

LEBANON, NH

Public Schools
Recreation Facilities
Police Department

August 26, 2010

Prepared for:
City of Lebanon, New Hampshire
Planning Department

Prepared by:

BCM PLANNING LLC
49 Pineland Drive – Suite 202B
New Gloucester, Maine 04260
(207) 688-8433

Executive Summary

This report provides documentation of the basis for impact fee calculations for selected public capital facilities in the City of Lebanon: public schools, public recreation facilities, and police department facilities. For each fee category, the report provides a basis for assigning a proportionate share of selected City capital costs to new development. Following a review of a number of alternatives for impact fee assessment, the Planning Board determined that impact fees should be assessed on the basis of building floor area. The summary impact fee schedules chosen by the Planning Board are summarized in the chart below.

Lebanon Impact Fee Schedule

Land Use or Structure Type	Lebanon Impact Fees 2010 Fees Per Square Foot *			
	School Facilities	Recreation Facilities	Police Department Facilities	Total Impact Fees Per Sq. Ft.
Residential Uses				
Single Family Detached (SFD)	$1.75	$0.45	$0.24	$2.44
Single Fam. Attached/Townhouse	$0.41	$0.57	$0.31	$1.29
Two Family Structure	$1.20	$0.64	$0.34	$2.18
Mutlifamily Structures (3+ Units)	$1.22	$0.68	$0.37	$2.27
Manufactured Housing	$0.93	$0.66	$0.35	$1.94
Non-Residential Uses				
Retail and Restaurants	---	---	$0.22	$0.22
Offices and Commercial Services	---	---	$0.11	$0.11
Industrial, Transportation, Whse, Communic.	---	---	$0.06	$0.06
Nursing Homes & Licensed Care Facilities	---	---	$0.03	$0.03
Other Institutional Uses	---	---	$0.22	$0.22
**Residential uses assessed on gross living area; non-residential uses assessed on gross floor area.*				

In preliminary studies, several options were developed for each of above impact fee categories for consideration by the Planning Board. For each fee category, the Board selected the lowest assessment option, to be expressed as a fee per square foot. The capital cost basis of the selected fee schedules may be summarized as follows:

- The school impact fee assessment reflects the cost of grade 5-8 facilities only (the new middle school);
- The recreation impact fee is based on maintaining the current level of service, measured by developed recreation acreage per thousand residents;
- The police department impact fee is the recoupment of a proportionate share of the cost of the police station, which has capacity to support new development.

The periodic review and adjustment of the fee schedules is both necessary and desirable to ensure that fees are equitably assessed over time, and that the fees reflect capital facility cost assumptions that are reasonably commensurate with actual City capital investments. The impact fee assessments are structured to allow for future adjustments in the variables of each fee basis. Other impact fee categories may be added in the future for other capital facility categories.

Introduction

Impact fees are authorized under New Hampshire RSA 674:21, V and enabled within the City of Lebanon by the Lebanon impact fee ordinance (Section 213). This impact fee analysis provides a basis of assessment for public schools, recreation and police department impact fees in the City. The report updates and builds on earlier studies of impact fee potential completed by BCM Planning, LLC in 2006 and 2007.[1] A joint meeting of the City Council and the Planning Board was held on October 17, 2007 to review a draft basis of assessment for certain impact fee categories based on preliminary studies. While no action was taken on that particular report, the City subsequently initiated a process to create new ordinance provisions for impact fees. On July 15, 2009, the City replaced the impact fee provisions of its zoning ordinance with a new and updated Section 213 that enables the full range of impact fees authorized by New Hampshire RSA 674:21, V.

In the 2007 report on impact fees, draft fee schedules were developed for public schools, recreation, police department, fire department and municipal office facilities. Discussion of that report indicated that the City wished to base its impact fees on realistic levels of capital investment, supported either by evidence of actual appropriations and past investment levels, and/or on planned expenditures documented within a long term plan or by the Capital Improvement Program (CIP). The City's prior experience with impact fees resulted in the refunding of some fees and the subsequent termination of the fee system. Abandonment of the original fee system was due in part to inconsistencies between the original cost basis assumptions used to define the fee amounts, and the actual investments made by the City in related capital projects.

In this context, BCM Planning, LLC has assumed that the most supportable basis for impact fee assessment in Lebanon would reflect: (1) evidence of actual progress in appropriations to fund related capital facilities; (2) existing or planned facility capacity adequate to serve the demands of new development; and/or (3) specific indications from long-term facility plans or the CIP that such investments are forthcoming. Using these criteria, the most supportable impact fee categories at this time are public schools, recreation facilities, and Police Department facilities. While municipal office and Fire Department facilities may also require expansion and improvement, there do not appear to be sufficiently specific plans in place that confirm the likelihood of near-term projects involving expansion or major improvements to those facilities.

Other categories of impact fee assessments may be supportable if there is sufficient documentation of capacity needs, and a high probability that capital investments by the City will address the capacity demands of new development. As stated in the 2006 and 2007 reports, any investment fee, system development charge, or other capital cost assessment for *public water, sewer or storm water facilities* should be implemented under the authority of utility ordinances, rather than through the impact fee provisions of the zoning ordinance. New Hampshire RSA 149-I provides statutory authority for sewer and storm water system assessments, and RSA 38 authorizes assessments for water utilities. Fees for utility infrastructure are generally applied as users connect to the respective systems, while impact fees are applied to new development through the land use regulatory process.

[1] BCM Planning, Evaluation of Impact Fee Potential – Phase 1 Review, November 30, 2006; and BCM Planning, Basis of Assessment Report and Draft Impact Fee Schedules, August 30, 2007.

Part A: Public School Impact Fee

Lebanon has not experienced net growth in resident school enrollment for a number of years. While there were net gains in enrollment following the building boom of the mid-1980s, the general long term trend in Lebanon has been a decline in average resident enrollment per occupied unit. Even as new housing units have been added to the City's service base, there has been a long term trend toward lower Lebanon resident enrollment within the public schools. The Lebanon School District has found that reduced enrollment has occurred even during periods when standard "cohort survival" models projected modest increases in enrollment. It is likely that the high proportion of multifamily housing units in Lebanon, and a changing demographic profile may make for a highly mobile population with significant turnover. In Lebanon and other urban centers, relative resident mobility, aging of the population, and associated declines in average household size in recent years allow the housing supply to increase while total enrollment remains stable or even declines.

The basis for school impact fees is clear in situations where there is a history of growing enrollment and pressure to increase school capacity with construction of additions or new school facilities. But the rationale is not as evident when enrollment is stable or declining. With a decline in average household size (and average pupils per occupied dwelling unit), it is possible to absorb a significant number of housing units without a net increase in enrollment. Nevertheless, new development will contribute to overall enrollment in the school system and will benefit from the capital facilities provided for all students.

Impact fees are based on the assumption that adequate facility capacity investments will be made to provide both for existing needs as well as anticipated future demands. A public school impact fee should be supportable where several conditions are met:

- There is evidence of ongoing investment in the quality of school facilities that provide adequate space for the educational program;
- Planned improvements will resolve existing deficiencies in school facility space per pupil at reasonable spatial standards;
- Adequate capacity will be available to serve the needs of existing enrollment as well as enrollment from new development; and
- The assessment reflects average school enrollment ratios per housing unit that can be updated periodically, and which represent new development's proportionate demand on school capacity.

1. Long Term Enrollment Trend

A review of resident public school enrollment in Lebanon from 1980-2000 indicates that the number of public school pupils in the City declined during the 1980s, grew slightly in the 1990s, but has been declining since 1996. The illustrations which follow show the long-term history of enrollment for resident pupils and for total enrollment in Lebanon schools. The City's middle school and high school serve students from outside Lebanon.

The long term trends illustrated by Figures 1 and 2 show that a significant increase in the number of resident pupils occurred after the building boom of the mid-1980s; there was net growth in public enrollment in the subsequent decade (1986-1996). Overall, resident school enrollment within Lebanon has been in decline since 1996, while there has been growth in attendance of students from other towns served by City schools. Most of the decline in enrollment has occurred at the K-8 level, while high school enrollment has been more stable. See Figures 1 through 4.

Figure 1

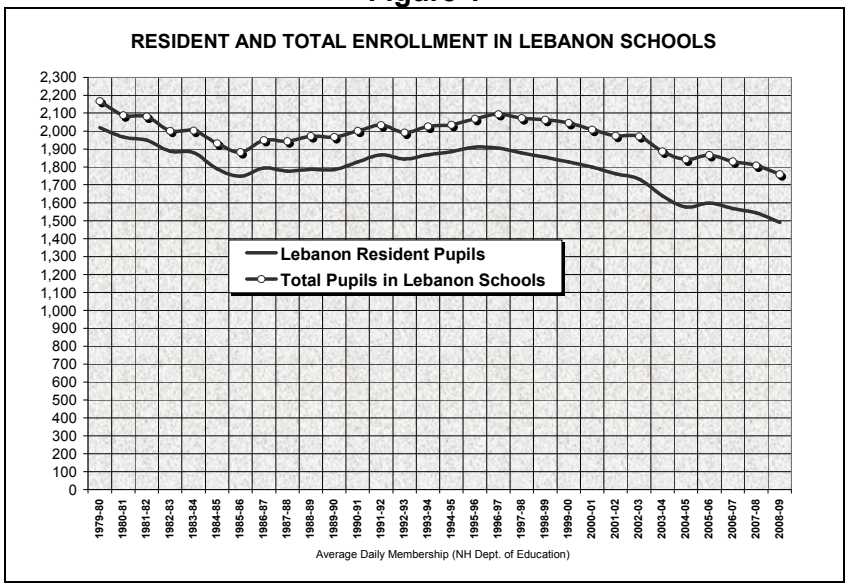


Figure 2

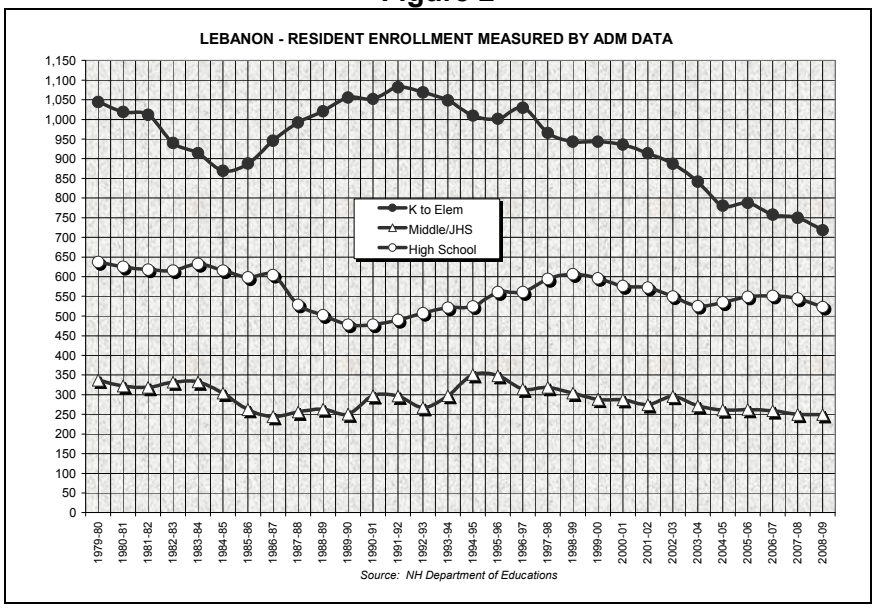


Figure 3

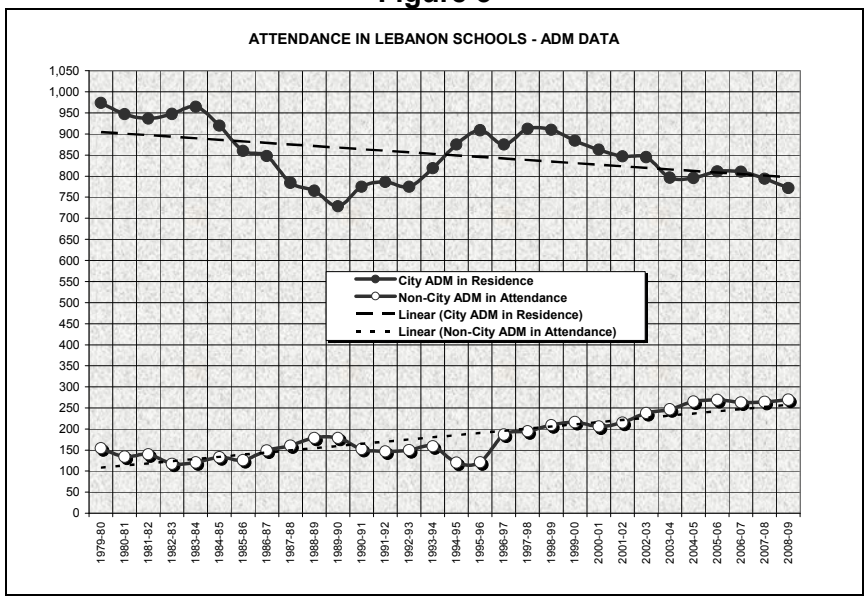
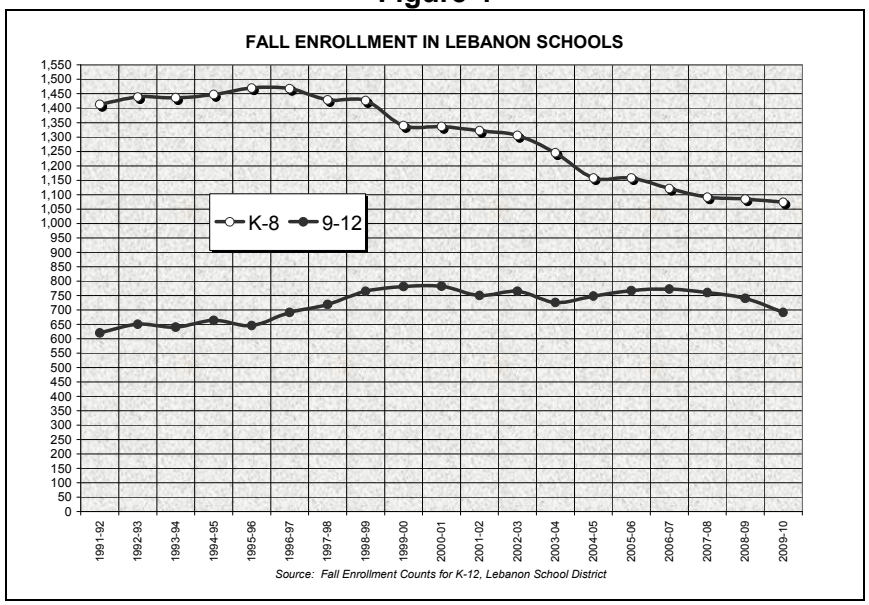


Figure 4



The lack of growth in enrollment particularly at the K-8 level is likely the result of demographic changes as well as the high percentage of multifamily units in the Lebanon housing stock. About 53% of the City's housing units are in 2+ family structures as of 2008 estimates, and the City's single family home inventory has been growing slowly. Building permit data from the NH Office of Energy and Planning indicates that the City added 711 multifamily units from 2000-2008, but only 181 single family detached units. In this period, about 80% of the growth in the City housing inventory was in multifamily structures.

The average single family home in Lebanon has 2-1/2 to 3-1/2 times as many pupils per dwelling unit than the average attached or multifamily dwelling unit in the City. The City's

average resident public school enrollment per household (all occupied housing units) in 2009 is estimated by BCM Planning at about 0.21 pupils per occupied housing unit. Average enrollment per unit is often low in older urban centers in New Hampshire, but the Lebanon ratio is even lower than expected based on other studies within the state conducted by BCM Planning, LLC.

2. Existing and Planned School Facilities

Lebanon has purchased a site for a new grade 5-8 middle school and has approved a bond of over $24.8 million for site development and construction (not including land acquisition cost). This new school will have capacity for at least 600 students. Moving grades 5 and 6 to the new middle school will allow elementary facilities to serve grades K-4 in two elementary schools. Those elementary schools will still have reserve capacity for accommodating additional enrollment. There are no current plans for expansion of the High School, estimated to be at about 85% of capacity with room for additional enrollment growth. Table 1 below illustrates current conditions and future configurations and capacities following the completion of the planned middle school.

Table 1

School Facilities	Year Built	Grades Served	Site Acreage	Building Area Gross Sq. Ft.	Pupil Capacity **	Square Feet Per Pupil Capacity	2009 Enrollment	2009 Enrollment as % of Capacity
EXISTING CONDITIONS 2010								
ELEMENTARY SCHOOLS								
Hanover Street Elementary	1952	K-4	with LHS	54,223	418	130	298	71%
Mt. Lebanon Elementary *	1953	K-4	5.3	32,665	323	101	257	80%
Seminary Hill	1901	5-6	5.3	34,400	286	120	232	81%
Total Elementary (K-6)		K-6	10.6	121,288	1,027	**118**	787	77%
JUNIOR HIGH SCHOOL								
Lebanon Jr. High	1925	7-8	7.4	41,850	371	113	318	86%
Total for K-8 Facilities		K - 8	18.0	163,138	1,398	117	1,105	79%
HIGH SCHOOL								
Lebanon High School	1958	9-12	35.8	102,382	818	125	697	85%
Total School Facilities in Service 2010		K-12	53.8	265,520	2,216	120	1,802	81%
FACILITIES AFTER COMPLETION OF PLANNED MIDDLE SCHOOL								
ELEMENTARY SCHOOLS								
Hanover Street Elementary	1952	K-4	shared with LHS	54,223	418	130	298	71%
Mt. Lebanon Elementary *	1953	K-4	5.3	32,665	323	101	257	80%
Total Elementary (K-4)		K-4	5.3	86,888	741	117	555	75%
MIDDLE SCHOOL (Planned)								
Planned Middle School (5-8)	2014	5-8	30.0	100,363	600	167	550	92%
Total for K-8 Facilities		Pre-K - 8	35.3	187,251	1,341	140	1,105	82%
HIGH SCHOOL								
Lebanon High School	1958	9-12	35.8	102,382	818	125	697	85%
Total Facilities in Service After Completion of New Middle School		K-12	71.1	289,633	2,159	134	1,802	83%

** Also houses Pre-K program; students included in 2009 enrollment total*

*** Estimates for existing and future configuration based on interviews with Superintendent Michael Harris (2006 and March 2010)*

The new middle school and the related changes in grade configuration will allow the oldest schools in the system (Seminary Hill School and the Lebanon Junior High School) to be retired. Those two schools currently rely on five modular classrooms that will be replaced with permanent, higher quality facility space.

The changes at the grade K-8 level will result in an increased level of service (average floor area per pupil capacity) for existing and future students in the system. Overall the floor area per pupil capacity at the K-8 level will increase from 117 square feet per pupil capacity to an average of 140 square feet per pupil capacity. The proposed improvements will be of benefit

to new development by providing adequate facility capacity at a higher spatial standard, while improving and modernizing the facilities available to all students.

3. Resident Enrollment Per Dwelling Unit

An impact fee system for public schools should rely on the most accurate enrollment ratios to assure proportional assessments that reflect relative consumption of facility capacity by various types and sizes of housing units. To this end, BCM Planning, LLC conducted a detailed analysis that matched the number of resident students (by grade level) by their street address to the housing characteristics of that location as indicated by the City's property assessment data base. This enabled a detailed cross tabulation of the number of students by grade level by structure type, age of housing unit, and living area using data specific to the City of Lebanon. After excluding age-restricted multifamily housing from the calculations, the enrollment per housing unit data was adjusted using assumed occupancy rates by type of structure to arrive at enrollment ratios by grade level per occupied dwelling.

For the selected method of assessment, the ratio of resident pupils per 1000 square feet of living area by residential structure type is used assign a proportionate basis for school impact fee assessment. Alternative methods were reviewed, including assignments of average enrollment per dwelling unit by structure type.

4. School Facility Space Standard and Capital Cost

Attributable school development costs have been estimated by assigning an average school floor area per pupil capacity by grade level. The spatial standards used in the impact fee basis reflect the floor areas per pupil capacity that will exist once the new middle school is completed and the elementary schools are reconfigured to two K-4 facilities. Following the construction and grade reassignment, the system will provide the following estimated floor area per pupil capacity:

Elementary K-4	117	(sq. ft. per pupil capacity)
Middle School 5-8	167	
Combined K-8	140	
High School 9-12	125	
All Facilities K-12	134	

Consumption of facility space by average dwelling units may then be defined by multiplying the estimated number of pupils per occupied housing unit by the school floor area required per pupil. Alternative models of impact fee assessment were also prepared using State guidelines for floor area per pupil based on State building aid review criteria. These alternatives produced similar overall results in fee amounts.

Gross capital costs were assigned at an average development cost per square foot of school facility space. For the new middle school, cost was assigned based on the Lebanon School District's 2010 development cost estimates for the project (not including land acquisition).

Alternative models developed for the Planning Board included fees for elementary and high school facilities as well. In those models, the school facility costs per square foot for grade K-4 and 9-12 facilities were estimated using school building values per square foot derived from City property assessment data. Those values reflect depreciated building values that are probably lower than their replacement cost.

In the impact fee basis, the City's cost for school development is estimated by deducting from the gross capital cost the likely proportion of principal cost supported by State building aid as applicable to the particular facilities of the School District. This reduces the effective capital cost that is assigned to new development in the impact fee so that it reflects the capital cost likely to be borne by the City, net of State building aid.

The combination of the above factors (pupils per 1000 square feet of living area x school floor area per pupil capacity x cost per square foot, less State building aid) generates a proportionate net local capital cost per square foot of living area by residential structure type.

5. Credit Allowance

The remaining step is to consider whether that capital cost assignment should be reduced further by making some allowance for property tax payments for school debt service costs that are needed to fund pre-existing space needs. Until the proposed bond issue for the new middle school was approved, the only recent debt service cost for school facilities had been for a 2002 construction bond for high school improvements.

New debt service costs will be incurred for capacity-related improvements to finance the new middle school for grades 5-8. The new school will enable the elimination of five modular classrooms and an increase in the space per pupil capacity for grade K-8 students. The additional floor area already needed to serve K-8 enrollment at the desired service standard of 140 square feet per pupil capacity is estimated in Table 2 below. The resulting space calculation is used to estimate the proportion of the school development cost that is attributable to rectifying the existing deficiency in floor area relative to the current student population.

Table 2: Estimated Area Required for Upgrade in K-8 Space Per Pupil

Facility Component	K-8 Facilities Average
Increased Space (Sq. Ft.) Per Pupil Capacity with new Middle School	23
x Existing Pupils (2009)	1,105
= Sq. Ft. to Upgrade Space Per Pupil in Permanent Facilities	25,415
+ Replace 5 Modular Classrooms @ Approximately 1200 sq. ft. each	6,000
Total Floor Area Upgrade - Existing Pupils	31,415
As % of New Middle School floor area (100,363 sq. ft.)	31%

Based on the estimates in Table 2 above, 31% of the cost of the new middle school may be reasonably attributable to an upgrade in the level of service (space per pupil) provided to K-8 students as the net result of middle school construction. A credit allowance has been using a higher ratio assuming 35% of net local debt service costs for the new middle school. The credit allowance is incorporated into the impact fee model to offset the cost of property tax impacts related to upgrading the level of service (floor area) for existing K-8 students. The credit allowance calculation for the middle school is shown in Table 3.

Table 3: Credit Allowance – Planned Middle School

New Middle School - Projected Debt Service

Original Bond Amount Assumed:	$ 24,879,779	
Interest Rate	4.75%	Estimated bond payments beginning 2013
Effective State Aid % of Principal	32.50%	

Calendar Year	New Middle School Projected Debt Service & Building Aid (District Est)				Net School District Cost
	Principal	Interest	Total	Less Est. State Buidling Aid	
2010	$ -	$ -	$ -	$ -	$ -
2011	$ -	$ -	$ -	$ -	$ -
2012	$ -	$ 590,895	$ 590,895	$ -	$ 590,895
2013	$ 1,243,989	$ 1,152,245	$ 2,396,234	$ (404,296)	$ 1,991,938
2014	$ 1,243,989	$ 1,093,155	$ 2,337,144	$ (404,296)	$ 1,932,848
2015	$ 1,243,989	$ 1,034,066	$ 2,278,055	$ (404,296)	$ 1,873,759
2016	$ 1,243,989	$ 974,977	$ 2,218,966	$ (404,296)	$ 1,814,670
2017	$ 1,243,989	$ 915,887	$ 2,159,876	$ (404,296)	$ 1,755,580
2018	$ 1,243,989	$ 856,797	$ 2,100,786	$ (404,296)	$ 1,696,490
2019	$ 1,243,989	$ 797,708	$ 2,041,697	$ (404,296)	$ 1,637,401
2020	$ 1,243,989	$ 738,619	$ 1,982,608	$ (404,296)	$ 1,578,312
2021	$ 1,243,989	$ 679,529	$ 1,923,518	$ (404,296)	$ 1,519,222
2022	$ 1,243,989	$ 620,439	$ 1,864,428	$ (404,296)	$ 1,460,132
2023	$ 1,243,989	$ 561,350	$ 1,805,339	$ (404,296)	$ 1,401,043
2024	$ 1,243,989	$ 502,261	$ 1,746,250	$ (404,296)	$ 1,341,954
2025	$ 1,243,989	$ 443,171	$ 1,687,160	$ (404,296)	$ 1,282,864
2026	$ 1,243,989	$ 384,081	$ 1,628,070	$ (404,296)	$ 1,223,774
2027	$ 1,243,989	$ 324,992	$ 1,568,981	$ (404,296)	$ 1,164,685
2028	$ 1,243,989	$ 265,903	$ 1,509,892	$ (404,296)	$ 1,105,596
2029	$ 1,243,989	$ 206,813	$ 1,450,802	$ (404,296)	$ 1,046,506
2030	$ 1,243,989	$ 147,723	$ 1,391,712	$ (404,296)	$ 987,416
2031	$ 1,243,989	$ 88,634	$ 1,332,623	$ (404,296)	$ 928,327
2032	$ 1,243,989	$ 29,545	$ 1,273,534	$ (404,296)	$ 869,238
Total	$ 24,879,779	$ 12,408,790	$ 37,288,569	$ (8,085,928)	$ 29,202,641

Net Present Value Future Payments @ 5%	$16,927,078
Portion of Cost Attributed to Existing Space Deficiencies	35%
Credited Portion of Costs	$5,924,477
Lebanon Net Local Assessed Valuation (Fall 2009)	$1,776,891,652
Past Payment Credit Per $1000 Valuation Home Value	$3.33

IMPACT FEE CREDIT ALLOWANCES

FUTURE PAYMENTS FOR NEW MIDDLE SCHOOL - SPACE INCREMENT REQUIRED FOR EXISTING ENROLLMENT

Structure Type	Assessed Value Assigned Per Sq. Ft.	Raw Land Value Per Sq. Ft. @ 13% of Total Valuation	Past Pymt Credit	Future Payment Credit
Single Family Det. (SFD)	$164	$21	n.a.	($0.55)
Single Fam. Attached/Townhouse	$146	$19	n.a.	($0.49)
Two Unit Structure	$111	$14	n.a.	($0.37)
Multifamily 3+ Unit Structure	$81	$11	n.a.	($0.27)
Manufactured Housing	$80	$10	n.a.	($0.27)

6. School Impact Fee Assessment Schedule

After consideration of several alternatives, the Planning Board elected to apply a school impact fee assessment with a capital cost basis limited to grade 5-8 facilities (the new middle school). School facility development costs for grade 5-8 facilities reflect the anticipated comprehensive cost per square foot to develop the new middle school facility (excluding land acquisition). Table 4 shows the impact fee schedule, expressed as an assessment per square foot of living area.

Table 4: School Impact Fee Schedule For Grade 5-8 Facilities

Type of Structure	**School Impact Fee Per Square Foot**
Single Family Detached (SFD)	**$1.75**
Townhouse & Attached	**$0.41**
Two Unit Structure	**$1.20**
Multfamily (3+ Unit Structure)	**$1.22**
Manufactured Housing	**$0.93**

The detailed components of the selected school impact fee basis (square foot method – grade 5-8 facilities only) are contained in Table 5. Note that the model in Table 5 contains the results of alternative assessment amounts as well as the selected alternative. The selected fee basis does not include cost assignments for K-4 or high school (grade 9-12) facility space.

Table 5

CITY OF LEBANON SCHOOL IMPACT FEE COMPUTATION PER SQUARE FOOT BY DWELLING UNIT TYPE

(Assumes depreciated costs for elementary and high school; cost new for middle school)

Type of Structure	Enrollment Per 1000 Sq.Ft. Living Area				School Floor Area Per Pupil Capacity				School Facility Cost/Sq. Ft. (See Text)			Capital Cost Per Sq. Ft. Residential Living Area
									$152	**$248**	**$152**	
	Grade K-4 Enrollment	Grade 5-8 Enrollment	Grade 9-12 Enrollment	Total K-12 Enrollment	Grade K-4 Schools	Grade 5-8 (proposed)	Grade 9-12 High School	Total K-12 Per Pupil	Elementary Grade K-4	Middle Grade 5-8	High Grade 9-12	
Single Family Detached (SFD)	0.081	0.082	0.086	0.249	117	167	125	136	$1.44	$3.40	$1.63	$6.47
Townhouse & Attached	0.043	0.032	0.031	0.106	117	167	125	134	$0.76	$1.33	$0.59	$2.68
Two Unit Structure	0.072	0.056	0.048	0.176	117	167	125	135	$1.28	$2.32	$0.91	$4.51
Multfamily (3+ Unit Structure)	0.077	0.053	0.041	0.171	117	167	125	134	$1.37	$2.20	$0.78	$4.35
Manufactured Housing	0.101	0.043	0.086	0.230	117	167	125	129	$1.80	$1.78	$1.63	$5.21

Type of Structure	State Building Aid (% of Principal) and Net District Cost (See Text)				Credit Allowances for Property Taxes Paid For Pre-Existing Capacity Needs						Impact Fee Per Sq. All School Facilities	Impact Fee Per Sq Ft. for K-8 Schools Only	**Impact Fee Per Sq. Ft. Middle School Only**
	30%	32.5%	40%	Net District Cost After State Building Aid									
	Net District Cost K-4 Schools	Net District Cost 5-8 Middle School	Net District Cost High School		Past Pymts for K-4 Schools	Past Pymts for 5-8 School	Past Pymts for High School	Future Pymts For K-4 Schools	Future Pymts for Middle School	Future Payments High School			
Single Family Detached (SFD)	$1.01	$2.30	$0.98	$4.29	$0.00	$0.00	($0.05)	$0.00	($0.55)	($0.10)	$3.59	$2.76	**$1.75**
Townhouse & Attached	$0.53	$0.90	$0.35	$1.78	$0.00	$0.00	($0.04)	$0.00	($0.49)	($0.09)	$1.16	$0.94	**$0.41**
Two Unit Structure	$0.90	$1.57	$0.55	$3.02	$0.00	$0.00	($0.03)	$0.00	($0.37)	($0.07)	$2.55	$2.10	**$1.20**
Multfamily (3+ Unit Structure)	$0.96	$1.49	$0.47	$2.92	$0.00	$0.00	($0.03)	$0.00	($0.27)	($0.05)	$2.57	$2.18	**$1.22**
Manufactured Housing	$1.26	$1.20	$0.98	$3.44	$0.00	$0.00	($0.02)	$0.00	($0.27)	($0.05)	$3.10	$2.19	**$0.93**

7. Alternatives Considered

A range of alternative school impact fee schedules were developed during the impact fee analysis. The alternatives were based on: (1) capacity cost of all K-12 school facilities; (2) capacity costs reflecting K-8 grades only; and (3) cost and capacity of the new middle school (grade 5-8) only. The range of possible impact fees was expressed per dwelling unit and per square foot of living area as shown in the comparison in Table 6.

Table 6:
Range of School Fee Schedules Reviewed

Structure or Use Type	School Fee Options Reviewed		
	All Schools	K-8 Facilities Only	New Middle School Only
Residential Use Per Dwelling Unit			
Single Family Detached (SFD)	$5,691	$4,373	$2,767
Single Fam. Attached/Townhouse	$1,195	$970	$423
Two Family Structure	$2,488	$2,055	$1,171
Mutlifamily Structure 3+ Units	$2,044	$1,729	$957
Manufactured Housing	$2,520	$1,783	$762
Residential Use Per Square Foot of Living Area			
Single Family Detached (SFD)	$3.59	$2.76	**$1.75**
Single Fam. Attached/Townhouse	$1.16	$0.94	**$0.41**
Two Family Structure	$2.55	$2.10	**$1.20**
Mutlifamily Structure 3+ Units	$2.57	$2.18	**$1.22**
Manufactured Housing	$3.10	$2.19	**$0.93**

The basis of assessment selected by the Planning Board (shaded area, bold type) reflects only the cost for middle school development, and is the lowest of the several alternative impact fee options considered the Board.

The Appendix to Part A (immediately following this section) contains detailed results of tabulations of Lebanon resident enrollment data per dwelling unit, enrollment per 1000 square feet of living area, and associated housing characteristics.

APPENDIX TO PART A:

DEVELOPMENT OF AVERAGE ENROLLMENT RATIOS PER UNIT - LEBANON, NH 2009

Table A-1

AVERAGE ENROLLMENT PER UNIT NOT ADJUSTED FOR OCCUPANCY

Structure Type	Lebanon Resident Enrollment				Housing Unit Characteristics				
	K-4	5-8	9-12	K-12	Dwelling Units	Living Area in Units	2009 Assessed Valuation	2009 Assessed Value Per Unit	Sq. Ft. Living Area Per Unit
Single Family Detached	328	331	350	1,009	2,657	4,222,660	$677,562,060	$255,010	1,589
Townouse (Attached)	32	24	23	79	725	742,038	$106,131,800	$146,389	1,024
Two Unit Structure	54	42	36	132	809	804,230	$85,637,781	$105,856	994
Three or More Unit Structure	101	69	54	224	1,664	1,329,412	$111,249,378	$66,857	799
Manufactured Housing	14	6	12	32	196	159,619	$7,035,700	$35,896	814
Total	529	472	475	1,476	6,051	7,257,959	$987,616,719	$163,215	1,199
Single Family Detached	328	331	350	1,009	2,657	4,222,660	$677,562,060	$255,010	1,589
All Other Housing	201	141	125	467	3,394	3,035,299	$310,054,659	$91,354	894

Age Restricted Multifamily Units Excluded from Computation:	306
Total Dwelling Units Estimated (Occupied and Vacant)	6,357

Structure Type	Enrollment Per Dwelling Unit				Enrollment Per 1000 Sq. Ft. Living Area			
	K-4	5-8	9-12	K-12	K-4	5-8	9-12	K-12
Single Family Detached	0.123	0.125	0.132	0.380	0.0777	0.0784	0.0829	0.2389
Townouse (Attached)	0.044	0.033	0.032	0.109	0.0431	0.0323	0.0310	0.1065
Two Unit Structure	0.067	0.052	0.044	0.163	0.0671	0.0522	0.0448	0.1641
Three or More Unit Structure	0.061	0.041	0.032	0.135	0.0760	0.0519	0.0406	0.1685
Manufactured Housing	0.071	0.031	0.061	0.163	0.0877	0.0376	0.0752	0.2005
Total	0.087	0.078	0.078	0.244	0.0729	0.0650	0.0654	0.2034
Single Family Detached	0.123	0.125	0.132	0.380	0.0777	0.0784	0.0829	0.2389
All Other Housing	0.059	0.042	0.037	0.138	0.0662	0.0465	0.0412	0.1539

Table A-2 – Single Family Enrollment Detail – Not Adjusted for Occupancy

SINGLE FAMILY HOMES BY BEDROOMS

Structure Type	Lebanon Resident Enrollment				Housing Unit Characteristics				
	K-4	5-8	9-12	K-12	Dwelling Units	Living Area in Units	2009 Assessed Valuation	2009 Assessed Value Per Unit	Sq. Ft. Living Area Per Unit
0 to 1 Bedroom	2	2	5	9	55	53,946	$9,931,632	$180,575	981
2 Bedrooms	49	41	32	122	512	617,982	$108,427,263	$211,772	1,207
3 Bedrooms	169	197	182	548	1461	2,268,259	$371,580,735	$254,333	1,553
4 or More Bedrooms	108	91	131	330	629	1,282,473	$187,622,430	$298,287	2,039
Total SF Units	328	331	350	1,009	2,657	4,222,660	$677,562,060	$255,010	1,589

Structure Type	Enrollment Per Dwelling Unit				Enrollment Per 1000 Sq. Ft. Living Area			
	K-4	5-8	9-12	K-12	K-4	5-8	9-12	K-12
0 to 1 Bedroom	0.036	0.036	0.091	0.164	0.0371	0.0371	0.0927	0.1668
2 Bedrooms	0.096	0.080	0.063	0.238	0.0793	0.0663	0.0518	0.1974
3 Bedrooms	0.116	0.135	0.125	0.375	0.0745	0.0869	0.0802	0.2416
4 or More Bedrooms	0.172	0.145	0.208	0.525	0.0842	0.0710	0.1021	0.2573
Total SF Units	0.123	0.125	0.132	0.380	0.0777	0.0784	0.0829	0.2389

Table A-3 - Single Family Home Detail by Year Built

SINGLE FAMILY DETAIL BY PERIOD

Year Built	Lebanon Resident Enrollment				Housing Unit Characteristics				
	K-4	5-8	9-12	K-12	Dwelling Units	Living Area in Units	2009 Assessed Valuation	2009 Assessed Value Per Unit	Sq. Ft. Living Area Per Unit
Pre - 1950	119	92	106	317	920	1,406,664	$189,549,540	$206,032	1,529
1950s	29	23	28	80	263	354,971	$54,102,876	$205,714	1,350
1960s	40	36	30	106	298	406,739	$68,616,556	$230,257	1,365
1970s	37	61	48	146	407	619,737	$107,800,975	$264,867	1,523
1980s	43	56	72	171	360	608,555	$106,240,781	$295,113	1,690
1990s	23	45	46	114	218	428,740	$78,401,633	$359,641	1,967
2000 or Later	37	18	20	75	191	397,254	$72,849,699	$381,412	2,080
Total SF Units	328	331	350	1,009	2,657	4,222,660	$677,562,060	$255,010	1,589
Pre-1980	225	212	212	649	1,888	2,788,111	$420,069,947	$222,495	1,477
1980 or Later	103	119	138	360	769	1,434,549	$257,492,113	$334,840	1,865
Pre-1990	268	268	284	820	2248	3,396,666	$526,310,728	$234,124	1,511
1990 or Later	60	63	66	189	409	825,994	$151,251,332	$369,808	2,020

Year Built	Enrollment Per Dwelling Unit				Enrollment Per 1000 Sq. Ft. Living Area			
	K-4	5-8	9-12	K-12	K-4	5-8	9-12	K-12
Pre - 1950	0.129	0.100	0.115	0.345	0.0846	0.0654	0.0754	0.2254
1950s	0.110	0.087	0.106	0.304	0.0817	0.0648	0.0789	0.2254
1960s	0.134	0.121	0.101	0.356	0.0983	0.0885	0.0738	0.2606
1970s	0.091	0.150	0.118	0.359	0.0597	0.0984	0.0775	0.2356
1980s	0.119	0.156	0.200	0.475	0.0707	0.0920	0.1183	0.2810
1990s	0.106	0.206	0.211	0.523	0.0536	0.1050	0.1073	0.2659
2000 or Later	0.194	0.094	0.105	0.393	0.0931	0.0453	0.0503	0.1888
Total SF Units	0.123	0.125	0.132	0.380	0.0777	0.0784	0.0829	0.2389
Pre-1980	0.119	0.112	0.112	0.344	0.0807	0.0760	0.0760	0.2328
1980 or Later	0.134	0.155	0.179	0.468	0.0718	0.0830	0.0962	0.2509
Pre-1990	0.119	0.119	0.126	0.365	0.0789	0.0789	0.0836	0.2414
1990 or Later	0.147	0.154	0.161	0.462	0.0726	0.0763	0.0799	0.2288

Table A-4 – Enrollment Ratios Adjusted for Occupancy Rates

ESTIMATED LEBANON ENROLLMENT RATIOS ADJUSTED TO OCCUPIED HOUSING UNITS

Structure Type	Lebanon Resident School Enrollment				Housing Units			
	K-4	5-8	9-12	K-12	Dwelling Units	Occupancy Ratio (2000 Census)	Estimated Occupied Units	Average Living Area Sq. Ft.
Single Family Detached	328	331	350	1,009	2,657	96.0%	2,551	1,589
Townouse (Attached)	32	24	23	79	725	100.0%	725	1,024
Two Unit Structure	54	42	36	132	809	93.7%	758	994
Three or More Unit Structure	101	69	54	224	1,664	98.4%	1,637	799
Manufactured Housing	14	6	12	32	196	87.3%	171	814
Total Excluding Age-Restricted MF Units	529	472	475	1,476	6,051	96.5%	5,842	1,199
Age Restricted Multifamily Units Excluded from Above					306	98.4%	301	
Total Estimated Dwelling Units in City 2009					6,357		6,143	

Structure Type	Estimated 2009 Resident Enrollment Per Occupied Unit				Estimated 2009 Resident Enrollment Per 1000 Sq. Ft. of Living Area			
	K-4	5-8	9-12	K-12	K-4	5-8	9-12	K-12
Single Family Detached	0.129	0.130	0.137	0.396	0.081	0.082	0.086	0.249
Townouse (Attached)	0.044	0.033	0.032	0.109	0.043	0.032	0.031	0.106
Two Unit Structure	0.071	0.055	0.047	0.173	0.072	0.056	0.048	0.175
Three or More Unit Structure	0.062	0.042	0.033	0.137	0.077	0.053	0.041	0.171
Manufactured Housing	0.082	0.035	0.070	0.187	0.101	0.043	0.086	0.230
Total & Average	0.091	0.081	0.081	0.253	0.076	0.067	0.068	0.211

Table A-5 – Estimated Enrollment Per 1000 Square Feet of Living Area

Predicted K-12 Enrollment By Living Area					
Structure Type:	SF Home	Townhouse	Duplex	Multifamily	Manufactured
Pupils Per 1000 SF:	0.249	0.106	0.175	0.171	0.230
Living Area	Number of Pupils Predicted by Averages				
500	0.124	0.053	0.088	0.086	0.115
750	0.187	0.080	0.131	0.128	0.172
1,000	0.249	0.106	0.175	0.171	0.230
1,250	0.311	0.133	0.219	0.214	0.287
1,500	0.373	0.160	0.263	0.257	0.345
1,750	0.436	0.186	0.307	0.300	0.402
2,000	0.498	0.213	0.350	0.343	0.460
2,250	0.560	0.239	0.394	0.385	0.517
2,500	0.622	0.266	0.438	0.428	0.575

Note: Pupils per 1000 square feet based on total sample for each unit type; pupils per unit predicted by living area assigns average rate to each floor area as a projection or estimate.

Part B: Recreation Facilities Impact Fee

The City has made significant appropriations and investments in public recreation facilities since the development of its Recreation Master Plan (1998). The proposed impact fee basis reflects the cost to implement selected elements of the Recreation Master Plan that relate to park and recreation facility development costs (excluding projects that center principally on conservation or open space). In the assignment of impact fees, it is assumed that the comprehensive cost to fund selected improvements based on the Plan will benefit today's population as well as many future residents and housing units.

The impact fee assumptions presented below illustrate several approaches to assigning to new development a proportionate share of the cost of long-term recreation facility improvement and expansion. The first approach centered on estimates of the cost to implement selected portions of the 1998 Recreation Master Plan. The second capital cost basis relied on assigning a desired level of service (expressed as developed recreation acreage per 1000 residents) computed in a 2001 analysis by the City Recreation Department. The third cost basis reflects the lower existing level of service in the City based on the actual developed recreation acreage per 1000 persons as of 2010.

1. Recreation Facility Investment to Implement Master Plan

The basis for estimating recreation facility costs in Lebanon centers on the Recreation Facilities Master Plan (1998) that developed a number of major long term recreation facility improvements accompanied by cost estimates. The Planning Board adopted an Addendum to that Plan listing a number of potential constraints to certain projects anticipated by the Plan. Of particular concern were limitations posed by the N H Comprehensive Shoreland Protection Act, the Connecticut River Corridor Management Plan, the potential for the Northern Rail Trail Corridor to revert to active rail use in the future, and the need to balance recreation development needs with other conservation goals of the City.

The 1998 Recreation Facilities Master Plan assumed a 15-year horizon (no specific population assumption) to estimate the future facilities needed in the City, and projected costs for major recreation facility construction and improvements. A review of the capital improvements made since the preparation of the Plan indicates that the City has been making progress toward implementing a number of major recommended projects. The review also indicates that a number of projects remain constrained by a lack of access and possible environmental constraints to development.

The progress in implementation of the 1998 Recreation Facilities Master Plan was reviewed as well as the Addendum to that plan adopted by the Planning Board. In order to arrive at a capital cost basis that reflects planned improvements to active recreation sites (not including those which are primarily for public open space) the following elements of the original Recreation Master Plan are *not included* within the capital cost basis used to estimate the per capita and per acre cost of recreation facilities:

> *Mascoma Lake Park* – according to the Planning Department, the development of this site would not be permissible under the NH Comprehensive Shoreland Protection Act.

Mascoma Flume/Woolen Mill Park – the Planning Department has advised that development of this recreation site would fail to meet NH Department of Environmental Protection criteria.

Two Rivers Park (Concoma Park in the Master Plan) – this element of the Master Plan and related costs are considered primarily as open space investments (under direction of Conservation Commission). Under NH RSA 674:21, V impact fees cannot be used purely for public open space.

Pat Walsh Field and Gray Ponds – cost estimates in the original Recreation Master Plan (1998) were predominantly related to the creation of a rail underpass, which is now viewed as an unlikely future project.

Smith Field in West Lebanon – this field has not been included in the cost basis because it is not owned or operated by the City.

Environmental and access constraints are also known to exist for other planned future recreation sites and facilities at Bagley Park, the Westboro Yard, and Lower Meadows. While these sites are subject to constraints, the City has made past investments and appropriations of funds for these sites. The estimated cost of recreation improvements to these sites has been included in the recreation impact fee cost estimates per acre of developed land. It is assumed that the City will need to seek alternative sites to meet similar recreation needs if these particular locations cannot be fully developed as originally anticipated.

The City's asset inventory (maintained by the Finance Department) was reviewed relative to evidence of major recreation facility investments. The Lebanon Capital Improvements Program summary sheets were reviewed relative to recreation capital costs already incurred and/or anticipated for projects identified in the Recreation Master Plan.

Where available, actual costs (indexed to 2010) were used for completed projects. For projects underway, CIP data indicating past expenditures and anticipated appropriations were used. For other elements of the Recreation Master Plan, the original 1998 cost estimates have been updated to 2010 based on the consumer price index (CPI).

Table 7 below lists the selected elements of the 1998 Recreation Master Plan that comprise the capital cost estimates for facility improvements and the estimated number of developed recreation acres that would be gained in the process of implementing the Plan. The estimated level of City investment for these selected improvements is about $6.18 million in 2010 dollars.

Table 7: Estimated Capital Cost for Elements of Recreation Master Plan

LONG TERM RECREATION FACILITY IMPROVEMENTS CONSTRUCTED OR ANTICIPATED - BASED ON PORTION OF 1998 RECREATION MASTER PLAN GOALS								
RECREATION MASTER PLAN COMPONENT (1)	July 1998 Cost Est. (Recreation Master Plan)	Estimated Cost Adjusted to 2010	Cost Assumption Basis	Gross Acres	Developed Acres In Recreation Use (2010)	Estimate of Developed Acres Added (2)	2010 Estimated City Cost Per Gross Acre	2010 Estimated City Cost per Developed Acre
Mascoma Corridor								
Mascoma River Greenway	--	$3,080,000	CIP	n.a.	n.a.	n.a.	not computed per acre	
Less non-City funds anticipated	--	($2,600,000)	CIP	n.a.	n.a.	n.a.		
Estimated City Cost	--	$480,000	CIP	n.a.	n.a.	n.a.		
Fellows Hill Park	$224,600	$299,877	Rec Plan	5.0	2.0	existing	$59,975	$149,938
Packard Hill Covered Bridge	$158,600	$211,756	Rec Plan	3.0	1.0	existing	$70,585	$70,585
* Westboro Park *(City park portion of 22 acre rail yard site)*	--							
Anticipated Cost from CIP 2010-2015		$593,060	CIP	8.0	0.0	8.0	$74,133	$74,133
Central Lebanon								
* Bagley Park	$885,300	$1,182,017	Rec Plan	12.0	0.0	6.0	$98,501	$197,003
Eldridge Park Improvements (Complete)	--	$250,000	Rec Director	3.3	3.0	existing	$75,758	$75,758
Intensive/Special Use								
Memorial Pool Area Total - Reconstruction (Completed)	--	$2,507,780	Actual cost adjusted to 2010 (3)	8.0	4.0	existing	$313,473	$626,945
* Lower Meadows Complex Total Estimated Cost	--	$1,330,000	CIP					
Less anticipated non-City funds	--	($880,000)	CIP					
Estimated City investment	--	$450,000	CIP	40.0	0.0	21.0	$11,250	$21,429
Storrs Hill & Goodwin Park	$166,400	$206,719	Rec Plan	n.a.	n.a.	n.a.	not computed per acre	
Estimated City Investment to Fund Recreation Master Plan		**$6,181,208**		n.a.	n.a.	n.a.	not computed per acre	
Increase in Developed Recreation Space (Newly Developed Sites Only)						***35.0***		

** Site improvements would add developed recreation acreage to City inventory when complete.*
(1) Some projects in the original 1998 Recreation Master Plan are not included within this table or the fee cost basis; see text of report.
(2) Bagley Park developed area estimated at 50 % of gross area. For Lower Meadows, 21 of 40 acres indicated as developed area in concept plan.
(3) Asset value is based on City original cost adjusted to 2010 replacement cost estimate

2. Desired Level of Service Study - 2001

In 2001, as part of a recreation use and needs survey, the City Recreation Department commissioned an independent level of service (LOS) study to determine standards for park and recreation acres required to serve anticipated participation based on results of a citizen survey of usage. City park classifications and functions were used to define prototype estimates of the recreation facilities that typically comprise neighborhood and community parks. Based on a survey of recreation program utilization, the analysis estimated the developed recreation space required per thousand persons needed to support program activity in Lebanon.

The level of service calculations were estimated based on an interpretation of the methodology outlined in *Park, Recreation, Open Space & Greenway Guidelines*, published by the National Recreation & Park Association in 1995. The steps in calculating the LOS (2001) involved: (1) defining the types of parks within the recreation system to which the LOS would apply (park hierarchy); (2) determining the typical recreational activities ordinarily found in each type of park or facility; and (3) estimating the amount of land area each activity requires so that acreage requirements of a prototype park can be estimated based on the facilities it includes. The LOS analysis then compared the supply of recreation activities to expressed demand (potential visits versus actual visits determined through citizen surveys). The level of service was then determined for each park prototype relative to its service population. The results yielded an estimate of the number of acres required per thousand persons for City-operated recreation sites. The desired standards indicated by the study were:

- Neighborhood park: 0.93 acres per 1000 persons
- Community park: 1.20 acres per 1000 persons
- Athletic complex (40 ac.): 3.18 acres per 1000 persons[2]

Total City Recreation Facilities 5.31 acres per 1000 persons

The above level of service standards indicated that the City should have about 5.31 developed acres devoted to recreation facilities in neighborhood parks, community parks and athletic facilities to meet the estimated demand for active recreation in Lebanon. The LOS study computed needs based on the amount of land required for *developed facilities* (actual acres required per ballfield, etc.) plus allowances for adequate open areas within these sites, and allowances for parking.

The original level of service analysis conducted in 2001 also considered an allowance for a regional park of 400 acres, primarily to accommodate trail use and skiing activities serving a broad regional population. (As there appear to be no plans for such a facility in Lebanon, the large regional park and related LOS were not incorporated into the fee basis of this report.)

The total *developed* acreage within City recreation parcels is significantly less than the *gross acreage* of total recreation land per thousand persons. In the 2001 study, the LOS was compared to the inventory of recreation land controlled by the City. In that LOS analysis, the recreation land supply was stated in some cases as the *gross* acreage of a site, while others appeared to reflect the *net developed* acreage of actual fields and improvements, plus associated non-wooded areas included within the parcel.

The resident survey component of the 2001 study showed that trail and corridor park land is needed for outdoor activities popular among Lebanon residents such as hiking, walking, running, jogging, downhill skiing and snowshoeing. The Recreation Master Plan and the LOS study indicated that the City has an ample total supply of land potentially available to serve future recreation needs, but a shortage of developed facilities relative to demand.

The recreation facilities inventory in 2010, based on data from the Recreation Director and the Planning Department, indicates that there are about 24.25 miles of trails within the City. The actual trail paths and access parking areas comprise an estimated 15.96 acres of land. The vast majority of trails are located within open space or conservation parcels.

Trail Location	Trail Miles	Est. Acres of Paths and Parking Areas
City Parks	1.20	0.73
School Sites	0.50	0.30
Conservation Parcels	22.55	14.93
Lebanon Total	24.25	15.96

Hiking and walking were identified in the 2001 resident survey as the most popular recreation activity. However, the LOS estimates did not include specific acreage calculations or standards for developed trail systems. The LOS calculations centered on outdoor fields, courts, playgrounds, shelters and picnic areas, and related parking accommodations. The LOS was

[2] Reference to a 40 acre athletic complex in the LOS study may have been based on the eventual use of Lower Meadows (40 acre site). However, the most recent concept site plans for Lower Meadows show only about 21 acres of the site would be devoted to developed facilities.

intended to be a guide for the analysis of recreation in Lebanon by providing a measure of the minimum amount of park land needed to accommodate specific recreation facilities used in City programs, as well as allowances for space to support unprogrammed personal recreation activities.

3. Existing Level of Service as Basis of Assessment

While the 2001 level of service study generated a *desired* level of service for recreation land and facilities, it is also possible to compute impact fees based on maintaining *existing* levels of service (developed recreation acreage of 3.89 acres per 1000 residents) in the future.

As part of the impact fee study conducted by BCM Planning, LLC, the current inventory of recreation land and facilities in the City was updated. Based on consultations with the Recreation Director and the Planning Department (March and June 2010) the inventory of recreation facilities, total recreation and open space acreage, and estimated developed recreation acreage within City-owned sites were updated from prior impact fee reports prepared in 2006 and 2007). The 2010 inventory also includes estimated trail mileage in the City, including trails within conservation and open space parcels as computed by the Planning Department.

The updated inventory indicates that as of 2010, developed recreation land in Lebanon averages 3.89 acres per thousand residents. This ratio is lower than the 5.31 acres per thousand persons estimated in the 2001 study as a desired level of service. Using the current level of service as a standard for impact fee assessment generates a lower cost basis than the higher level of service goal expressed in the 2001 study.

4. Recreation Impact Fee – Selected Approach

The three capital cost assignments described above were used to develop alternative impact fee calculations for recreation facilities. After review of these options, the Planning Board elected to use the existing level of service and estimated development cost per acre as the capital cost basis of the recreation impact fee. The basis of assessment for the selected recreation impact fee relies on the following assumptions:

a. The cost per developed acre for new recreation sites and related facilities in Lebanon was estimated from Table 7 using the adjusted cost of proposed new park facilities and the developed recreation acreage that the new sites would yield.

b. For the purpose of projecting new developed recreation acreage within future planned parks, the assumption was made that up to 6 acres would be developed at Bagley Park (50% of the gross area); 8 acres anticipated as the City-managed portion of the Westboro Yard; and 21 acres (just over 50% of gross area) at Lower Meadows. While the eventual development plans for all three sites are subject to access and environmental constraints[3], it is assumed that other field

[3] The Lebanon Planning Department indicates that development at the site may be limited by its designation as a Significant Ecological Area in a 2010 Natural Resources Inventory, Phase II. As of June 9, 2010 the Planning Department notes that this report has yet to be completed but that the designation is indicated by available data from the inventory.

and facility space of similar utility and cost would be pursued by the City as alternatives to meet its future recreation facility needs.

c. The estimated net City cost per acre ($72,847) for new or redeveloped recreation areas (excluding the pool complex) applied to the City's existing average of 3.89 acres per thousand persons yields a capital cost basis of **$283** per capita as shown in Table 8):

Table 8

COST TO MAINTAIN EXISTING AVERAGE DEVELOPED ACRES PER 1000 PERSONS			
City Owned Developed Recreation Acres Per 1000 (Excluding Trails)	Recreation Master Plan City Cost Per Developed Acre Estimated (2010)*	Cost Per 1000 Persons	Cost Per Capita
3.89	$72,847	$283,375	$283
** Based on average net City cost per developed acre for improvements for Westboro Park, Bagley Park, Lower Meadows, Felllows Hill, Packer Hill, Eldridge Park*			

d. That average cost per capita is multiplied by the estimated number of persons per occupied unit by type of structure (2000 Census for Lebanon) to generate a recreation facility cost per dwelling unit. That cost per dwelling unit, divided by the average living area of dwelling units in Lebanon yields a recreation impact fee per square foot (see Table 9).

Table 9 – Recreation Impact Fee Per Square Foot

Type of Structure	Average Household Size	Capital Cost Per Dwelling Unit @ $283 Per Person	Average Living Area Per Unit in Lebanon	**Recreation Fee Per Square Foot of Living Area**
Single Family Detached	2.54	$719	1,589	**$0.45**
Single Fam. Attached/Townhouse	2.07	$586	1,024	**$0.57**
Two Family Structure	2.24	$634	994	**$0.64**
Mutlifamily Structure 3+ Units	1.93	$546	799	**$0.68**
Manufactured Housing	1.89	$535	814	**$0.66**

5. Public Recreation Facilities vs. Public Open Space

Under the authority of New Hampshire under RSA 674:21, V recreation impact fees are to be based on the provision of recreation facilities *"...not including public open space."* Those terms are not defined by that statute. The terms "recreation facilities" and "public open space" have been defined in the Lebanon impact fee ordinance for guidance. Open space (other than developed trails or facilities within such areas) cannot be funded with recreation impact fees.

However, there are other means by which open space or park land may be set aside under subdivision regulations. RSA 674:36 provides that local subdivision regulations may require plats to show adequate open spaces, as well as parks suitably located for playgrounds or other

recreational purposes, and may require that such parks be of reasonable size for neighborhood playgrounds or other recreational uses. These statutory provisions would appear to allow for dedication of such spaces to public use, and not necessarily limited to the property owners within a particular development.

The City's subdivision and site plan regulations might therefore be used to preserve or enable continuity of open space or recreation trail corridors, and public parks and recreation land. Such procedures could probably be applied to both residential and non-residential subdivisions to provide adequate open space and park land, while impact fees would be used to fund the development of outdoor recreation facilities.

6. Alternative Recreation Fees Considered

Alternative recreation fees were computed on the basis of higher levels of service or cost per capita that reflected (1) implementation of the modified 1998 Recreation Master Plan and its related costs per capita; (2) use of the higher level of service assumptions indicated by the City's 2001 LOS study at 5.31 developed acres per 1000 residents; and (3) maintaining existing levels of service at 3.89 acres per 1000 residents (the selected alternative). A comparison of the alternative recreation impact fee assessment options considered during the study is summarized below.

a. Alternative Fee Based on Recreation Master Plan Implementation

When the modified 1998 Recreation Master Plan is used to define the cost of recreation capital facility investments, an estimate of the service population benefiting from the investments is needed. In this alternative, the potential service population potentially accommodated by implementation of the Recreation Master Plan relied on the City's LOS study recommendation of 5.31 acres (developed recreation space) per thousand population.

As of 2010, the estimated total developed recreation acreage owned by the City (excluding school sites) is 53.05 acres. Implementation of the 1998 Recreation Master Plan would add an estimated 35.0 *developed* acres to the City inventory based on the assumptions in this analysis (see Table 7). The resulting future inventory of 88.05 acres of developed recreation space, at an LOS of 5.31 acres per thousand persons, would support a future service population of approximately 16,582. The cost for selected Recreation Master Plan investments ($6.18 million) divided a future service population (16,582) yielded an average capital cost of **$373** per capita as a possible capital cost basis for a recreation impact fee.

b. Alternative Fee Using Higher LOS

If the higher LOS standard (5.31 developed acres per 1000 persons) were used to compute the fee, then the value of existing deficiencies relative to that standard would be used to adjust the fee basis assigned to new housing units. Based on the updated information prepared for this analysis the existing developed acreage within City-operated recreation sites is 3.89 acres per thousand persons. The independently calculated LOS standard (2001) for similar facilities was at 5.31 developed acres per 1,000 residents. Given an existing estimated resident population of 13,638 (latest estimate, for 2008) the existing deficiency in developed recreation acreage is 1.42 acres per 1,000 persons.

The cost to rectify that deficiency could then be assigned as a credit allowance against the LOS-based capital cost assignment. Using costs estimated from the 1998 Recreation Master Plan, adjusted to 2010 using the Consumer Price Index (CPI), the average cost of facility improvements (excluding the reconstruction of the pool complex) was estimated at $72,847 in net City cost per *developed acre*. The required investment per capita to achieve the specific LOS standard of 5.31 developed acres per thousand persons, using the average improvement cost for new or redeveloped recreation sites, would be **$387** per capita.

Table 10 – Alternative Cost Per Capita Based on Cost Per Developed Acre at Desired LOS

COST PER CAPITA LOS STANDARDS (2001 RECREATION SURVEY) AND ESTIMATED COST OF NEW FACILITIES PER ACRE			
Standard for Developed Acres - Local Recreation Need Per 1000 Population	Recreation Master Plan City Cost Per Developed Acre Estimated (2010)*	Cost Per 1000 Persons	Cost Per Capita
5.31	$72,847	$386,818	$387
** Based on average net City cost per developed acre for improvements for Westboro Park, Bagley Park, Lower Meadows, Felllows Hill, Packer Hill, Eldridge Park*			

The 2001 estimate of the desirable LOS (5.31 acres per thousand persons) is higher than the actual existing LOS (3.89 acres per thousand). If the higher LOS standard were applied as a basis for impact fees, then cost to rectify the existing deficiency relative to that standard would need to be recognized in that alternative impact fee calculation.

The cost to rectify deficiencies at the specified standard is $1.41 million. As of 2009, Lebanon's net local assessed valuation was about $1.78 billion; the credit allowance amount based on that valuation is $0.79 per thousand assessed. The credit allowance would then be assigned for the impact fee scenario in which the higher LOS is used. The credit allowance is computed by multiplying the credit per thousand valuation by an average assessed value per housing unit (for each structure type).

Table 11 – Credit Allowance Relative to Higher LOS Alternative

2008 Estimated Base Year Population		13,638
2009 Inventory - Developed Rec. Acreage City Parks & Rec Facilities		53.05
Developed Acreage Per 1000 Persons (2009)		3.89
Standard for Developed Acres Per 1000 Persons Per 2001 LOS Study		5.31
Deficiency Relative to 2001 Demand Study Standard		1.42
Additional Developed Acres Needed (Base Yr Existing Need)		19.37
Average Cost Per Developed Acre - Parks & Athletic Sites		$72,847
Value of Existing Deficiency Relative to LOS Standard		$1,411,046
City Net Assessed Valuation 2009		$1,776,891,652
Deficiency Cost Per $1000 Assessed Value		$0.79
Type of Structure	Average Assessed Value Per Sq. Ft.	Credit Allowance
Single Family Detached	$164	($0.13)
Single Fam. Attached/Townhouse	$146	($0.12)
Two Family Structure	$111	($0.09)
Mutlifamily Structure 3+ Units	$81	($0.06)
Manufactured Housing	$80	($0.06)

Table 12 compares the alternative recreation fee calculations per square foot of living area considered during the course of this analysis to the selected alternative The Planning Board selected the lowest of these three options, reflecting the assumption that the existing level of service in developed recreation acreage per resident will be maintained.

Table 12 – Range of Recreation Impact Fees Considered
(Selected Alternative Bold, Shaded)

COMPARISON OF RECREATION IMPACT FEE ALTERNATIVES			
Assessment Basis	**(A) Maintain Existing Avg Developed Acres Per 1000 Pop.**	(B) Cost to Implement Modified Recreation Plan	(C) Meet Target LOS for Parks (After Credit Allowance)
Single Family Detached	**$0.45**	$0.60	$0.49
Single Fam. Attached/Townhouse	**$0.57**	$0.75	$0.66
Two Family Structure	**$0.64**	$0.84	$0.78
Mutlifamily Structure 3+ Units	**$0.68**	$0.90	$0.87
Manufactured Housing	**$0.66**	$0.87	$0.84

The Appendix to Part B (immediately follows this section) includes a detailed inventory of recreation sites and facilities as well as public open space and trails in Lebanon, and anticipated improvements to various sites and facilities supporting local recreation needs.

APPENDIX TO PART B: RECREATION INVENTORY

Table B-1 - City

CITY OF LEBANON, NH - INVENTORY OF EXISTING RECREATION FACILITIES - JUNE 2010

LOCATION OR SITE	Site Acreage		Facility Inventory - Number of Facilities																Facility Development Potential and Needs
	Total acres	Developed Acres in Parks & City Athletic Complexes	Gymnasium	Basketball Courts (Outdoor)	Basketball Courts Indoor (In Gymns)	Tennis Courts	Baseball, Softball, Little League Fields (Diamond Fields)	Soccer, Football & Multipurpose (Rectangular Fields)	Running Track	Swimming Pool	Skating Pond or Rink	Skateboard Park	Playgrounds (play equipment)	Picnic Sites	Boat or Canoe Launch	Cross Country or Hiking Trails	Trail Mileage	Other Facilities or Rec Uses	Existing Parking	PROPOSED IMPROVEMENTS (from 1998 inventory table updated to 2010)
CITY OWNED RECREATION AREAS																				
Civic Memorial Field	9.00	8.50		1		2	1	2					1	1				Storage buidling, restrooms	15 on site; remainder on street	Sidewalk and parking improvements
Colburn Park	2.50	2.50											1	5				Bandstand, walks, sculpture, fountain, benches, info booth, farmers market site	Park on surrounding City streets	Electrical upgrades
East Wilder Boat Launch	3.00	0.00												1	1				10 spaces	Improve launch area surfacing, pave access drive, add picnic facilities
Eldridge Park	3.30	3.00					1	1						1				Restroom, coaches room, maintenance building, water fountain, pavilion, adjacent to other recreation amenities and community garden	20 spaces	Bridge and path to Bagley property
Fellows Hill	5.00	2.00											1	1					Adequate 10+	Path link to Mill Rd, orchard, upgraded play equipment, shelter, signage, benches & picnic tables.
High Street Park	0.50	0.50																Benches	n.a.	Sculpture, fountain
Logan Park	4.00	4.00					1	1										Restrooms	50 spaces	Access to the Woolen Mill Pond and Flume Rec. Area
Packard Hill Covered Bridge	5.00	1.00												1		Yes	0.20	Bridge, river frontage	6 spaces	Gazebo, signage, carry-out boat access, parking improvements, paths, fishing access
Pat Walsh Park	2.00	1.55					1	1			1		1					Porta-john	Inadequate; 10 on-site	Access to Rail Trail, upgrade play equipment, access to and development of Gray Pond for ice skating
Riverside Community Park	8.00	6.00										1	2	3		Yes	0.75	Porta-john, volleyball area, bocce area, horseshoe area, pavilion	50	Upgrade skateboard park
Storrs Hill Ski Area	20.00	20.00																Snowboard park; 2 ski jumps, 2 downhill ski slopes, lift, maint. garage and lodge	Adequate - 50 cars	Electrical and lighting upgrades; access to Goodwin Park
Veterans Memorial Pool	8.00	4.00								1			1	1		Yes	0.25	Restrooms, bath house	40	2 tennis courts, pavilions, expanded parking, 1-basketball, open field, playground facilities, picnicking, river and rail trail access
Bagley Park	12.00	0.00																Currently undeveloped open space	None; bridge in poor condition	Bridge upgrade, parking, 1 softball diamond, 1 sm. soccer, horseshoes, pavilion, lights, paths. City acquired in early 1990s
TOTAL CITY (Without School Sites)	**82.30**	**53.05**	**0**	**1**	**0**	**2**	**4**	**5**	**0**	**1**	**1**	**1**	**7**	**14**	**1**		**1.20**			
Per 1000 Population (2008)	**6.03**	**3.89**	**0.00**	**0.07**	**0.00**	**0.15**	**0.29**	**0.37**	**0.00**	**0.07**	**0.07**	**0.07**	**0.51**	**1.03**	**0.07**		**0.09**			

Table B-2 – School Sites

CITY OF LEBANON, NH - INVENTORY OF EXISTING RECREATION FACILITIES (CONTINUED)

LOCATION OR SITE	Site Acreage		Facility Inventory - Number of Facilities																Facility Development Potential and Needs
	Total acres	Developed Acres	Gymnasium	Basketball Courts (Outdoor)	Basketball Courts Indoor (In Gymns)	Tennis Courts	Baseball, Softball, Little League Fields (Diamond Fields)	Soccer, Football & Multipurpose (Rectangular Fields)	Running Track	Swimming Pool	Skating Pond or Rink	Skateboard Park	Playgrounds (play equipment)	Picnic Sites	Boat or Canoe Launch	Cross Country or Hiking Trails	Trail Mileage	Other Facilities or Rec Uses	Existing Parking	PROPOSED IMPROVEMENTS (from 1998 inventory table updated to 2010)
RECREATION AREAS AT CITY SCHOOLS																				
High School Rec. Fields / Hanover St. School	34.50	34.50	2	1	2		2	6	1				1	1				Storage and concession builidngs; restrooms	Available	See Elementary/High School Master Plan. Revised parking, multipurpose fields and vehicle circulation
Lebanon Junior High School	6.20	6.20	1		1		2	3						1				Restrooms	Available	Access to Rail Trail, shelter
Mt. Lebanon Elementary School	5.00	5.00											1	1			0.50	Restrooms	Available	Nature trail
Sacred Heart School	0.75	0.75											1					Restrooms	Available	
School Street School	0.50	0.50											1					Restrooms	Available	
Seminary Hill School	5.00	5.00	1		1									4				Restrooms	Inadequate	
Total for School Sites	**51.95**	**51.95**	**4**	**1**	**4**	**0**	**4**	**9**	**1**	**0**	**0**	**0**	**4**	**7**	**0**		**0.5**			
TOTAL SITES WITH DEVELOPED FACILITIES CITY & SCHOOL TOTAL	**134.25**	**105.00**	**4**	**2**	**4**	**2**	**8**	**14**	**1**	**1**	**1**	**1**	**11**	**21**	**1**		**1.70**			
Per 1000 Population (2008)	**9.84**	**7.70**	**0.29**	**0.15**	**0.29**	**0.15**	**0.59**	**1.03**	**0.07**	**0.07**	**0.07**	**0.07**	**0.81**	**1.54**	**0.07**		**0.12**			

Table B-3 – City Open Space Parcels and Trails Within Sites

LEBANON PARCELS COMPRISING PUBLIC OPEN SPACE AND DEVELOPED AREAS WITHIN (PARKING, TRAILS)																					
	Site Acreage		Facility Inventory - Number of Facilities																		Facility Development Potential and Needs
LOCATION OR SITE	Total acres	Developed Acres	Gymnasium	Basketball Courts (Outdoor)	Basketball Courts Indoor (In Gymns)	Tennis Courts	Baseball, Softball, Little League Fields (Diamond Fields)	Soccer, Football & Multipurpose (Rectangular Fields)	Running Track	Swimming Pool	Skating Pond or Rink	Skateboard Park	Playgrounds (play equipment)	Picnic Sites	Boat or Canoe Launch	Cross Country or Hiking Trails	Trail Mileage	Other Facilities or Rec Uses	Existing Parking	PROPOSED IMPROVEMENTS (from 1998 inventory table updated to 2010)	
CITY OPEN SPACE & CONSERVATION PARCELS INCLUDING TRAILS																					
Alana Cole Conservation Area	19.0	0.3														Yes	0.50	River frontage	4 spaces at trailhead; inadequate	Add signage	
Baker's Crossing	5.00	0.2												1		Yes	0.20			Add signage	
Boston Lot	438.90	4.2												1		Yes	7.00	Lake access; swimming	40 on private property	Improve trails, visitors center, lodge, on abutting land. Add signage.	
Chambers Memorial Rreserve	20.00	0.5														Yes	0.75	Paths		Add signage	
Farnum Hill	864.00	4.2														Yes	7.00		4 spaces	Improved parking; add signage	
Goodwin Conservation Area	104.50	1.8														Yes	3.00	River access; swimming	2 spaces - 50 on adjacent property	Improved trail system; add signage	
Lebrun Meadow	22.82	0.0															0.00				
Mill Parcel/Road	10.40	1.89														Yes	1.30	Total acres est @ 66' wide ROW. "Developed" acreage calculated @ 1.3 miles x 12' est track width	Mascoma River scenic walking trail		
Signal Hill	220.20	0.6														Yes	1.00			Add signage/repair imporve parking lot	
Starr Hill	39.37	0.5												1			0.75			Added paths, parking, signage	
Trues Ledges Natural Area	2.15	0.2														Yes	0.30	Swimming	Adequate	Add signage	
Two Rivers Conservation Area	24.30	0.5															0.75			Pavilion, multipurpose open fields, paths, picnicking, parking, boat launch, signage	
Zeev Darer Memorial	20.60	0.0															0.00			None - wetland	
TOTAL OPEN SPACE / CONSERVATION PARCELS	**1,791.24**	**14.93**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**3**	**0**		**22.55**				

Note: Developed acreage within open space estimated by the Planning Department for parking areas plus trail area computed based on length and 5 foot average path width. Mill Road (Class A trail) area estimated using 12 foot track width (typical width of Class VI highways is 10-12 feet)

Table B-4 – State and Private Facilities and Open Space

CITY OF LEBANON, NH - STATE AND PRIVATELY OWNED RECREATION FACILITIES																				
	Site Acreage		Facility Inventory - Number of Facilities																	Facility Development Potential and Needs
LOCATION OR SITE	Total acres	Developed Acres	Gymnasium	Basketball Courts (Outdoor)	Basketball Courts Indoor (In Gymns)	Tennis Courts	Baseball, Softball, Little League Fields (Diamond Fields)	Soccer, Football & Multipurpose (Rectangular Fields)	Running Track	Swimming Pool	Skating Pond or Rink	Skateboard Park	Playgrounds (play equipment)	Picnic Sites	Boat or Canoe Launch	Cross Country or Hiking Trails	Trail Mileage	Other Facilities or Rec Uses	Existing Parking	PROPOSED IMPROVEMENTS (from 1998 inventory table updated to 2010)
PUBLIC-STATE																				
Bloods Brook Boat Launch	25.00	0.00													1			Carry-in boat launch	6 spaces	Path system upstream adjacent to stream bed
Mascoma Lake Boat Launch	3.00	1.00													1					
Rail Trail	160.00	160.00														Yes 20 miles@66'	20.00		On City streets and at parks	Pave portion of RR bed for foot and bike travel; provide access to City parks and sidewalk network; extend into West Lebanon
TOTAL STATE	**188.00**	**161.00**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**2**		**20.00**			
TOTAL PUBLIC RECREATION AND OPEN SPACE - LOCAL AND STATE	**1,979.24**	**175.93**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**3**	**2**		**42.55**			
PRIVATELY OWNED RECREATION FACILITIES																				
Carter Community Bldg	0.4	0.4	1		1									1				Meeting rooms	street parking	
Carter Golf Course	45.0	45.0																		
Carter Witherell Center	5.0	5.0	1	2	2	4		1		1			4	2		Yes	0.50	Community garden, Indoor pool; exercise facilities, pavilion, outdoor facilities available to public for a fee. Indoor use requires membership	adequate	
Dartmouth Land	300.0	0.0																Near center of City, open to public. Trails and wetlands. Abuts Boston lot.	70 spaces	Trail upgrades, x-c ski grooming
Elks Field	3.0	3.0					1	1										Private softball league; open to public	50 spaces	
Sachem Athletic Area (Managed by Hanover Recreation and Dartmouth College)	40.0	40.0					2	9			1		1	2						
Smith Field	4.0	4.0					1											Playground, pavilion, soccer, basketball, added parking. Open to public	20 spaces	
Wilder Dam Property														1		Yes	1.00	New England Power Co. Picnic area open to public.	40 spaces	
TOTAL PRIVATE FACILITIES	**397.4**	**97.4**	**2**	**2**	**3**	**4**	**4**	**11**	**0**	**1**	**1**	**0**	**5**	**6**	**0**		**1.50**			
Subtotal Open to Public	**397.4**	**97.4**	**0**	**2**	**0**	**4**	**2**	**0**	**0**	**0**	**0**	**0**	**4**	**0**	**0**		**1.00**			
PRIVATE LAND WITH PUBLIC FACILITY POTENTIAL																				
Lower Meadows	40.0	0.0																		5 of 40 acre site is City land. 1 baseball, 1softball,2 full soccer, parking, pavilion, paths, benches, lighting. (City has easement from Timken Aerospace)
Westboro Park	8.0	0.0																		Recreation/community center, skateboard park, roller blade path, parking, lighting, viewing areas, benches. Bunkhouse, river walk, canoe and kayak boat lanuch. City has negotiated lease of 6 acres from State of NH; transfer to City proposed

Part C: Police Department Impact Fee

The Lebanon Police Department headquarters is a facility of about 13,800 square feet built in 1991 on Poverty Lane. A major investment in the communications center (partly supported by grant funds) was made in 2004. Additional capital investments in communication and dispatch facilities were made in 2006. Reserve capacity at the facility remains available to accommodate additional sworn personnel if required to meet the demands of new development.

Based on an interview with the Chief of Police in 2006, the facility was constructed with the intent of supporting staffing that would include up to 40 sworn personnel. At the time the building was designed, an International Association of Chiefs of Police (IACP) guideline of about 350 square feet per officer was used to size the facility.

The City has significant service demands from non-residential development that influence its staffing needs in comparison with other communities of a similar size, including:

- Location at the confluence of north-south and east-west interstate highways;
- A regional work destination with a high ratio of in-bound commuter traffic;
- A border community to Vermont that is a regional shopping destination with no sales tax;
- A growing retail and commercial development sector and the locus of a unique and large scale medical facility (Dartmouth-Hitchcock and related facilities).

Data collected by the Police Department in 2004 indicates that Lebanon has a comparatively high call volume per officer (590 per year) compared to the lower average of 470 calls per officer found in the much larger communities of Londonderry, Dover and Derry. Arrests per officer were also much higher in Lebanon at 36 per officer per year compared to an average of 19 per officer per year in the three larger jurisdictions.

Because of these and other influences, the ratio of officers to resident population in Lebanon is comparatively high. While it is clear that population alone is insufficient to define the number of officers required for the particular demands of any jurisdiction, the Lebanon Police Department currently provides 2.5 uniformed personnel per 1000 residents to provide services to residential and non residential development in the City. That ratio has been used as a level of service guideline for the impact fee calculations. This ratio of officers per 1000 persons is necessary to derive a proportionate basis for impact fee assessment. The ratio should in no way be construed as a limitation on the personnel the police department may find necessary to provide adequate services now or in the future.

Based on the assumption of 2.5 uniformed officers per 1,000 persons, and total floor area within the buildings of the department, the police station facilities are estimated to have the capacity to support a resident population of about 16,000. Therefore, it is possible to recoup part of the cost of facility investment in the form of impact fees.

1. Proportionate Demand by Sector

The Lebanon Police Department does not compile call data that is address-specific or property-class based. Therefore, a direct measurement of demand allocation between residential and non-residential sectors is not possible. Because population growth in the City has been relatively modest, the significant change in Police Department call volume over time (see Figure 5) is probably significantly influenced by growth in non-residential development.

During the 2000-2006 period, total call volume increased at a rate that was more than twice the City's rate of population growth for the same period. As shown in Figure 6, the largest numerical increase in the number of Police Department calls appears to have originated in the Route 12-A corridor where much new commercial development has been concentrated.

Figure 5: Growth in Police Department Call Volume

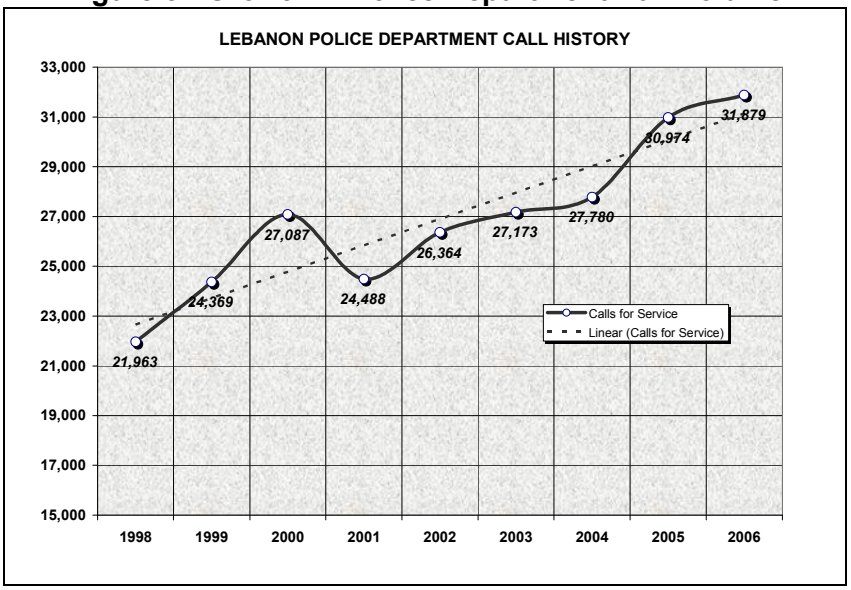


Figure 6

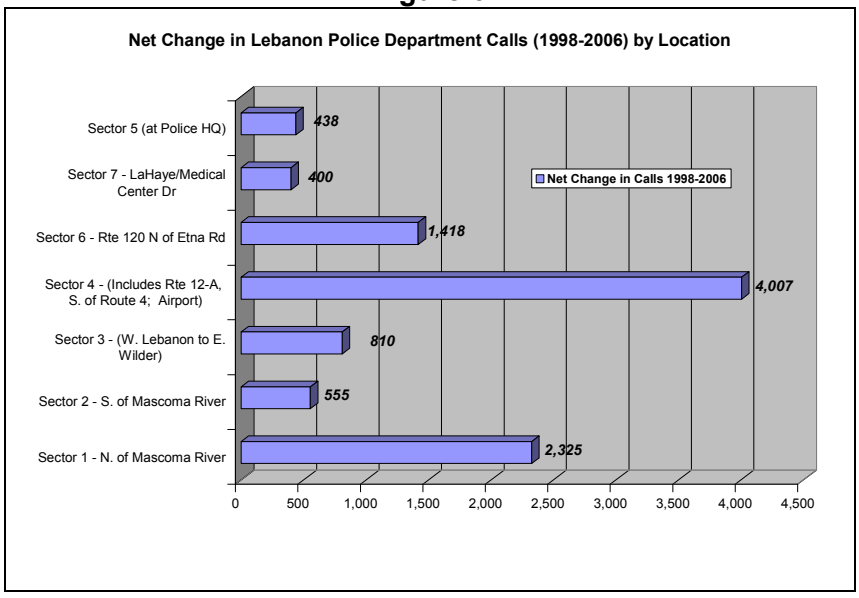


Table 13

NUMBER OF CALLS BY GEOGRAPHIC SECTOR - LEBANON POLICE DEPARTMENT											
Location	**1998**	**1999**	**2000**	**2001**	**2002**	**2003**	**2004**	**2005**	**2006**	**Net Change in Calls 1998 2006**	**Percent Change**
Sector 1 - N. of Mascoma River	6,595	7,307	8,203	7,696	8,039	8,470	8,404	9,213	8,920	2,325	35.3%
Sector 2 - S. of Mascoma River	4,908	5,810	5,858	4,786	4,613	5,239	5,663	5,709	5,463	555	11.3%
Sector 3 - (W. Lebanon to E. Wilder)	4,107	4,292	4,516	4,167	4,493	4,438	4,209	5,050	4,917	810	19.7%
Sector 4 - (Includes Rte 12-A, S. of Route 4; Airport)	4,325	5,081	5,755	5,483	7,282	6,808	7,163	7,899	8,332	4,007	92.6%
Sector 6 - Rte 120 N of Etna Rd	574	605	761	579	545	793	987	1,220	1,992	1,418	247.0%
Sector 7 - LaHaye/Medical Center Dr	294	318	331	338	455	643	652	661	694	400	136.1%
Sector 5 (at Police HQ)	1,114	917	1,656	1,431	922	767	692	1,211	1,552	438	39.3%
All Other	46	39	7	8	15	15	10	11	9	-37	-80.4%
Total	**21,963**	**24,369**	**27,087**	**24,488**	**26,364**	**27,173**	**27,780**	**30,974**	**31,879**	**9,916**	**45.1%**

Based on the proportions of call volume within predominantly non-residential sectors of the City, it seems reasonable to assume that at least 40% of the call volume demand on the department originates from non-residential land uses. Though there is no direct measurement of proportionate call volume in Lebanon by property type, this proportion is probably a conservative estimate of non-residential demand.

Because Police Department services provide not only emergency response, but also crime prevention, and regular patrols that serve all types of development in the mission to protect persons and property, other factors may also be appropriate to estimate the residential vs. non-residential share of demand on the Lebanon Police Department. These measures are shown in Table 14 below. The average non-residential share of service demand is estimated at 47% and the residential share at 53%.

Table 14: Estimated Share of Service Demand – Police Department

Sector	Share of Assessed Valuation (1)	Estimated Share of Calls	Daytime Pop	Share of Living Area (1)	**Average (Rounded)**
Non-Residential	47.6%	40.0%	53.0%	48.6%	**47%**
Residential	52.4%	60.0%	47.0%	51.4%	**53%**

(1) Excludes vacant land, utilities. Includes government uses and buidlings.

2. Allocation of Costs to New Development

As of 2008 the City has about 846 square feet of non-residential gross floor area per resident. For the purpose of the impact fee calculation, it is assumed that the same ratio of non-residential floor area per capita will be retained between 2008 and the time the facility reaches its estimated personnel-based capacity (residential population of about 16,000). Table 15 summarizes the assumptions of an impact fee model that assigns a proportionate share of police department facility costs to new development.

Table 15: Impact Fee Basis for Police Department Facilities

POLICE DEPARTMENT IMPACT FEE - LEBANON, NH		
Demand Base for Services	Total Population	Non-Residential Property GFA
Base Year (2008 Estimate)	13,638	11,542,964
Capacity of Police Department Building (Population)	16,000	13,536,000
Supportable New Development	2,362	1,993,036
Number of Sworn Officers in Department		Officers Per 1000 Persons
Base Year (2008) Need at Average Ratio Officers Per 1000	34	2.5
Planning Basis for Building Capacity	40	2.5
Support for New Development (additional officers)	6	(Planning Std)
Building Floor Area and Replacement Cost	**Police Dept**	**2010 Values**
Floor Area Of Police Headquarters	13,812	
Planning Std Used - GFA Per Officer	350	
Base Year Space Demand at Std	11,933	
Space Available to Support Growth	1,879	
Facility Development Cost in Base Year (1991)	$1,828,082	incl. storage garage
R. S. Means Time Adjustment Factor to 2010	1.968	
2010 Equivalent Development Cost	$3,597,665	$3,597,665
Estimated Current Cost to Construct Per Sq. Ft.	$260	
Land Value of Site (3 Acres) - Assessed Valuation	$265,200	
Estimated Market Value @ 2008 equalization ratio	93.4%	$283,940
Subtotal Land & Buildings Investment		$3,881,605
Communications Systems		$721,500
Total Land, Building and Communications		**$4,603,105**
Allocation of Facility Cost By Sector		
Non-Residential Share @ Station Planned Capacity	47%	$2,163,460
Residential Share @ Station Planned Capacity	53%	$2,439,646
Total Capital Investment to Serve Capacity Population		$4,603,105
Average Unit Costs for Capital Facilities		
Average Non-Residential Development Per Sq. Ft.		**$0.16**
Average Residential Cost Per Capita		**$152**

3. Impact Fee Assessment Per Square Foot

The Police Department impact fee is based on the recoupment of the City's investment in the department headquarters and related communications equipment and facilities at the site. Based on the original planning estimates for the facility relative to staffing ratios, the current facility is capable of supporting a larger complement of uniformed personnel, and is of benefit to new development.

The average capital cost computed in Table 15 is $152 per capita for residential uses and $0.16 per square foot for non-residential uses. The residential fees are computed by multiplying $152 per capita times average household size, divided by average living area per housing unit, to yield an impact fee per square foot.

The average cost per square foot of non-residential floor area is adjusted using multipliers that reflect relative expected demand within the non-residential sectors. The multipliers are based on a 2008 study by BCM Planning, LLC for the city of Dover, New Hampshire. In that study, the rate of police department calls for service per square foot of floor area was compared by sub-category of non-residential development. Retail and institutional uses generated significantly higher call volumes than the average. Office uses were somewhat lower, followed by industrial use and licensed care facilities (nursing homes and assisted living with personal care). At the time of the Lebanon impact fee study, it was not possible to associate Lebanon Police Department calls for service with particular street addresses and land uses to document local variations.

The use of these multiplier adjustments in the fee schedule assumes that a similar proportionate relationship would be found among similar non-residential use categories in Lebanon. Using this set of multipliers, retail uses would pay $0.22 per square foot, offices $0.11 per square foot, and industrial uses $0.06 per square foot.

Table 16: Police Department Impact Fee Schedule

Police Department Impact Fee: Residential Uses

Type of Structure	Average Household Size 2000	Capital Cost Per Dwelling Unit	Average Living Area	**Impact Fee Per Square Foot**
Single Family Detached	2.54	$387	1,589	**$0.24**
Single Family Attached (Townhouse)	2.07	$316	1,024	**$0.31**
Duplex & 2-Unit	2.24	$342	994	**$0.34**
Multifamily 3+ Units	1.93	$294	799	**$0.37**
Manufactured Housing	1.89	$288	814	**$0.35**

Police Department Impact Fee: Non-Residential and Institutional Uses

Non-Residential & Institutional Uses	Multiplier	**Impact Fee Per Square Foot**
Retail and Restaurants	1.40	**$0.22**
Offices and Commercial Services	0.70	**$0.11**
Industrial, Transportation, Whse, Communic.	0.35	**$0.06**
Nursing Homes & Licensed Care Facilities	0.20	**$0.03**
Other Institutional Uses	1.40	**$0.22**

The resulting impact fees would be assessed by structure type or land use per square foot of building area. For the purpose of residential assessment, gross living area is used to compute the fee; for non-residential uses the fee is applied to gross floor area of buildings.

Since there is no remaining debt service on the existing Police Department facility, impact fees could be used to offset other department capital projects that have a tangible relationship to enhancing the department's building capacity, internal systems, or response capability.